P. BOURDEREAUX.

Breech-Loading Fire-Arms.

No. 141,198. Patented July 29, 1873.

Fig. 1.

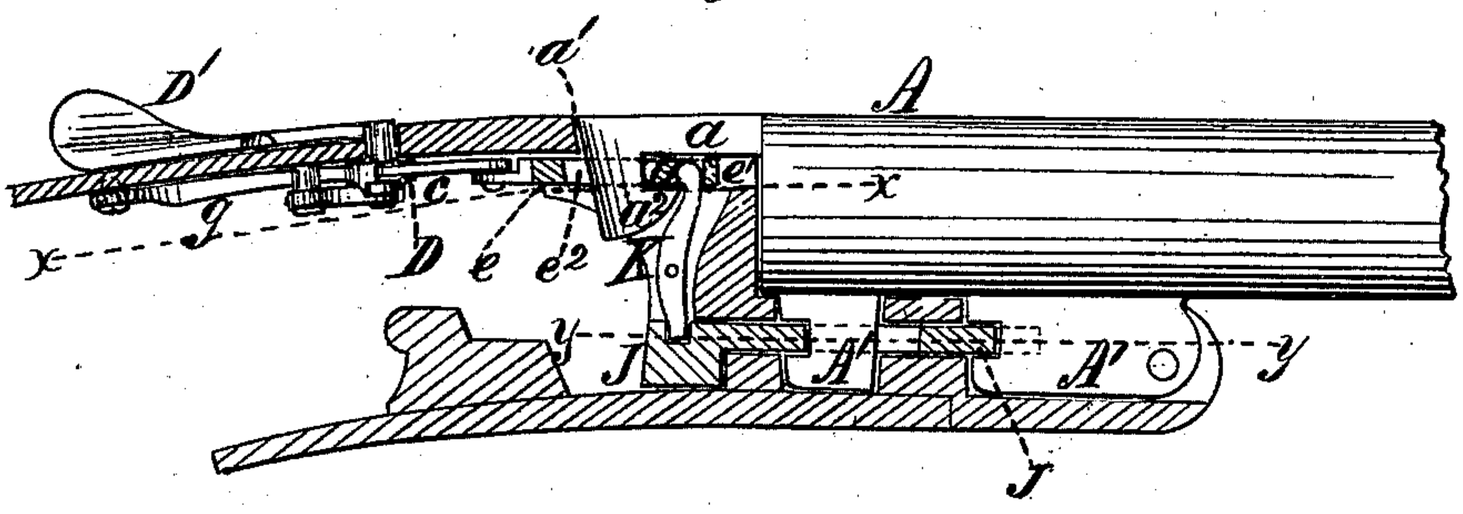


Fig. 2.

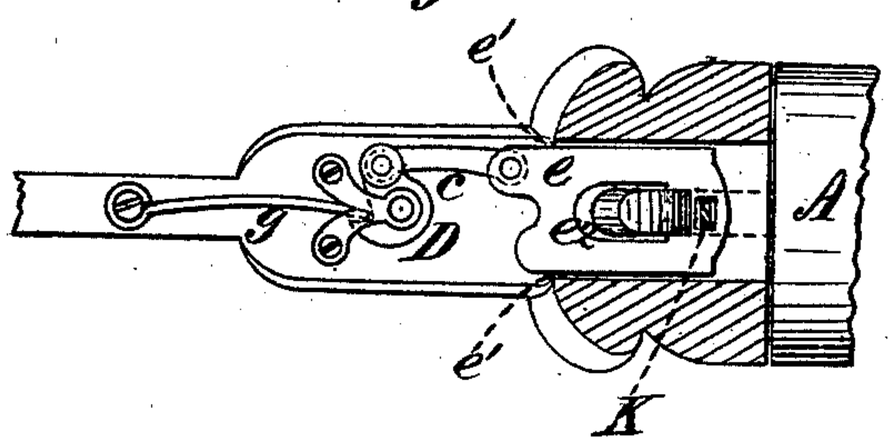


Fig. 3.

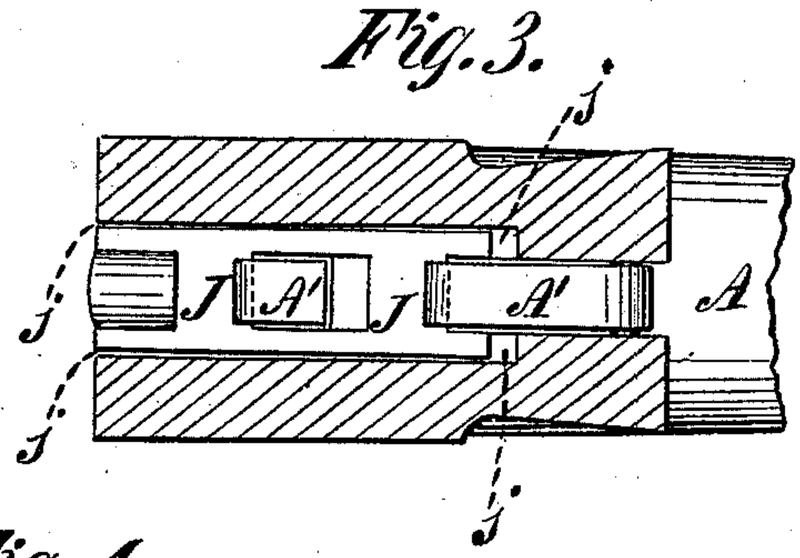
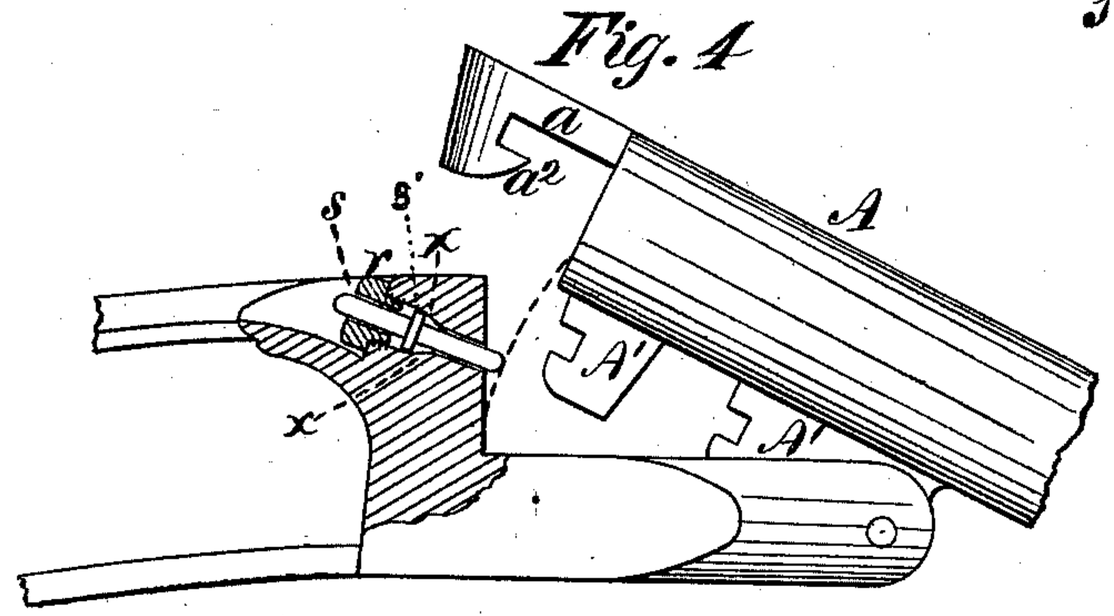


Fig. 4



Witnesses:

Arthur Neill

Emile Dauphinot

Inventor:

Peter Bourdereaux

UNITED STATES PATENT OFFICE.

PETER BOURDEREAUX, OF NEW YORK, N. Y.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **141,198**, dated July 29, 1873; application filed June 2, 1873.

To all whom it may concern:

Be it known that I, PETER BOURDEREAUX, of the city, county, and State of New York, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification:

My improvements relate to breech-loading fire-arms in which the barrels are pivoted horizontally to the stock, and consequently swing in a vertical plane in opening and closing; and they consist, first, in a hooked rib or catch projecting longitudinally backward from the upper side of the barrels, and fitting into and being locked within a corresponding slot or receptacle in the breech when the barrels are closed, and also in the combination and arrangement, with the said hooked rib or catch and its bolt, of a bolt or bolts, arranged to enter catches upon the under side of the barrels, as heretofore, and in so connecting and operating both bolts that they engage or disengage with the respective catches simultaneously; and, secondly, in the peculiar form of plungers for receiving the blow of the hammer and discharging the cartridge, as hereinafter described, by which the escape of gas at that point is avoided.

In the accompanying drawings, Figure 1 is a longitudinal section of a portion of the breech-piece with my improved locking device applied. Fig. 2 is a plan, in plane of line *x x*, Fig. 1, of the mechanism, inverted, for locking the catch projecting from the top of the barrels; Fig. 3, a section of the breech-piece and plan of the catches on the under side of the barrels and the bolts for engaging therewith, inverted, in plane of line *y y*, Fig. 1; Fig. 4, a sectional elevation, showing the construction and arrangement of my improved plungers.

The hooked rib or catch *a* projects back centrally and longitudinally from the upper side of the barrels A, and when the latter are closed fits within a corresponding slot or recess, a^1, in the top of the breech-piece. The horizontal bolt *e*, sliding within a groove, e^1, in the breech, has an elongated slot, e^2, through which the hook of the projection *a* passes in its descent. The bolt *e* is actuated through the connecting-rod *c* by the eccentric D and lever D′, the latter being situated upon the outer and upper side of the breech-piece or stock, and having a rigid connection with the eccentric D. A spring, *g*, secured to the stock at one end, bears against a shoulder of the eccentric, as indicated in Fig. 2, and tends constantly to keep the parts in such position that the bolt *e* will be engaged with the hook of the projection *a* when the barrels are closed, thus providing against the accidental unlocking of the parts, and rendering the action of locking automatic, since the inclined surface a^2 of the catch will, in its descent, act against the inner edge of the bolt to force the latter forward against the resistance of the spring *g* until the notch is reached, when the spring *g* will draw the bolt into engagement. To unlock the parts, the lever D′ is moved laterally, partially turning the eccentric, and forcing the bolt *e* forward, through the medium of the connecting-rod *c*, a sufficient distance to allow the hook a^2 to be withdrawn. I contemplate employing the locking device above described in combination with a double bolt engaging with catches upon the under side of the barrels. In such case the bolt J, which slides in the groove *j* of the breech, and is slotted to allow the catches A′ of the barrels to pass through, (see Figs. 1 and 3,) is connected with the upper bolt *e* by an intermediate lever, K, pivoted within the breech-piece at such a point between the two bolts as will give the extent of motion required by the bolt J. By this means the lower bolt J will be made to advance and recede in the opposite direction to, but simultaneously with, the upper bolt *e*. The use of the lever K avoids all duplication of parts which would be necessary without it, and the lower bolt J, being controlled by the upper bolt *e*, is likewise rendered automatic in locking, and a single movement of the lever D′ is sufficient to unlock the parts.

It will be seen that by my construction the barrels are firmly held to the breech-piece at points above and below the point of resistance or reaction during discharge, thus receiving and distributing the strain to the breech-piece and stock in the most advantageous manner possible, *i. e.*, in a line with the plane of the barrels, whereas where the latter are simply held to the breech by bolts underneath the barrels, the direction of the strain is in a line

more or less inclined to that of the barrels, exposing the bolts and the pivot by which the barrels are connected to the breech or stock to undue strain or wear. The use of the upper catch *a* and bolt *e* admits of the joint between the breech and the end of the barrels, when the latter are closed, being made very close and even, by which means the escape of gas during discharge is more effectually prevented.

By my construction of the locking mechanism, I am enabled to place the lever at a point in the rear of the hammer, thereby allowing the latter to be made heavier or more elaborate, if required, without interfering with the action of said lever.

My improved plunger *s* consists substantially of a pintle or rod resting within a bore at the usual point in the breech, immediately in front of the hammer. The length of the plunger is so regulated, that when its lower end is within and flush with the vertical shoulder of the breech, its opposite end will project outward a sufficient distance to allow the hammer in its descent to impart to it the extent of motion required, in order to cause the lower end to impinge against the cap of the cartridge. After the discharge and removal of the cartridge, and during the closing of the barrels, the end of the latter will act against the lower end of the plungers *s*, as will be understood by the dotted line, Fig 4, and gradually force them into their former position, ready for the action of the hammers. The plungers *s* are thus necessarily always set and ready for use whenever the barrels are closed, and this, too, without the use of springs, as heretofore, which are specially subject to rust, owing to the gas generated by the discharge. Although not absolutely necessary, I prefer to enlarge the bores at their upper ends, and close them by screw-heads *r*, pierced to allow the upper ends of the plungers *s* to pass through and to form collars *s'* upon the plungers *s*, so as to prevent the accidental withdrawal of the latter. By gradually tapering the bores, as indicated at *x*, Fig. 4, the collars *s'* will completely close them when the plungers are depressed, and thereby prevent the possibility of the gas generated by discharge escaping through the bores.

I claim—

The combination of the hooked rib or catch *a*, catch-bolt *c*, and vibratory connecting-lever K with the bolt J and catches A' A', substantially as and for the purpose herein specified.

In testimony whereof I have hereunto set my signature this 29th day of May, 1873.

PETER BOURDEREAUX.

Witnesses:

ARTHUR NEILL,

EMILE DAUPHINOT.